Docket No.: 00630/0204187-US0
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Scott Alan Jelinsky et al.

Application No.: 10/511,064 | Confirmation No.: 8561

Filed: Apr. 20, 2005 | Art Unit: 1639

For: ESTROGEN RECEPTOR ALPHA REGULATED GENE EXPRESSION RELATED ASSAYS AND THERAPEUTICS | Examiner: J. S. Lundgren

REQUEST FOR REFUND

MS 16
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The applicant of the above-identified patent hereby requests a refund of $1,200.00. A $1,200.00 for independent claims was charged in error (see Statement dated February 1, 2007, attached as Exhibit 1). A payment was already paid for independent claims. No new independent claims were added in the submission January 29, 2007. Thus, no fee of $1,200.00 was necessary. A copy of the January 29, 2007 submission is attached as Exhibit 2.

In the interest of expediting the refund of these fees, please credit Deposit Account No. 04-0100 with $1,200.00. When crediting the deposit account, applicant respectfully requests that the Patent Office provide a cross reference to Application Serial No. 10/511,064 as well as the attorney docket number 00630/0204187-US0.

Dated: March 13, 2007

Respectfully submitted,

By _____

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Attorneys/Agents For Applicant

EXHIBIT 1

United States Patent and Trademark Office

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Deposit Account Statement

Requested Statement Month:	February 2007
Deposit Account Number:	040100
Name:	DARBY & DARBY P.C.
Attention:	ANGELINA DILULLO
Address:	805 THIRD AVENUE
City:	NEW YORK
State:	NY
Zip:	10022-7513
Country:	UNITED STATES

DATE	SEQ	POSTING REF TXT	ATTORNEY DOCKET NBR	FEE CODE	AMT	BAL
02/01	1	11071099	50454-56106USCON	1202	$50.00	$43,372.02
02/01	2	11071099	50454-56106USCON	1203	$360.00	$43,012.02
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02/16	5	10596348	05432/0204244-US0	1614	-$200.00	$40,547.02
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02/21	1	11172562	01946/100B035-USE	1814	$130.00	$40,627.02
02/21	8	10841364	09788/0200969-US0	1806	$180.00	$40,447.02
02/22	38	10469371	2198/ON140USO	1501	$700.00	$39,747.02
02/23	74	RE34712	05432/800G469-000	8013	$50.00	$39,697.02
02/27	60	RE34712	05432/800G469-000	8013	$50.00	$39,647.02
02/27	61	RE34712	05432/800G469-000	8023	$120.00	$39,527.02
02/28	50	10597802	09450/0204261-US0	8021	$40.00	$39,487.02
02/28	231	60778009	04048/0203610-US0	8007	$20.00	$39,467.02

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
$43,422.02	$7,855.00	$3,900.00	$39,467.02

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EXHIBIT 2

Docket No.: 00630/0204187-US0
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Scott Alan Jelinsky et al.

Application No.: 10/511,064 | Confirmation No.: 8561

Filed: April 20, 2005 | Art Unit: 1639

For: ESTROGEN RECEPTOR ALPHA REGULATED GENE EXPRESSION RELATED ASSAYS AND THERAPEUTICS | Examiner: Jeffrey S. Lundgren

AMENDMENT AFTER FINAL ACTION UNDER 37 C.F.R. 1.116

MS: After Final
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

INTRODUCTORY COMMENTS

In response to the Final Office Action dated October 27, 2006, with a date for response of January 29, 2007, and pursuant to Rule 116 of the Rules of Practice, please enter the following amendments and consider the accompanying remarks.

It is believed that no fees are required for these submissions. However, should the U.S. Patent and Trademark Office determine that any additional fee is required or that any refund is owed for this application, the Commissioner is hereby authorized and requested to charge any deficiency and/or credit any refund owed to our Deposit Account No. 04-0100.

Amendments to the Claims begin on page 2 of this paper.

Remarks begin on page 10 of this paper.

AMENDMENTS TO THE CLAIMS

The following listing of the claims replaces all prior claims presented in the application.

1. (Currently amended) An isolated plurality of genes~~, each of whom is differentially expressed in kidney cells exposed to estrogen in kidney cells without said exposure, which plurality comprises~~ comprising a first group and a second group of genes, wherein each gene in said first group comprising NTT73, CYP7B1 and ABCC3 is differentially expressed at a higher level in ~~said~~ kidney cells exposed to estrogen than in said kidney cells without said exposure, and wherein each gene in said second group comprising BHMT and SAHH is differentially expressed at a lower level in said kidney cells exposed to estrogen than in said kidney cells without said exposure.

2. (Original) The plurality of claim 1, wherein said exposure is in vivo or in vitro.

3. (Original) The plurality of claim 2, wherein said higher level and said lower level are assessed using a predetermined statistical significance standard based on measurements of expression levels.

4. (Original) The plurality of claim 3, wherein said measurements are obtained using nucleotide arrays or nucleotide filters.

5. (Cancelled)

6. (Withdrawn) The plurality of claim 4, wherein said first group comprises CYP7B1.

7. (Cancelled)

8. (Withdrawn) The plurality of claim 4, wherein said first group comprises Tissue Factor, CYP7B1, BCAT1, STAT5A, and GADD45G, wherein said second group comprises BHMT.

9. (Withdrawn) The plurality of claim 4, wherein said first group comprises CYP7B1, TF, SCYA28, Iga, Vk28, PHD 2, ELF 3, TIM1, STAT5A, COR1, BCAT1, ABCC3, TIM2, NAT6, RGS3, GNBP3, BCL7A, 17ssDHH, FYVE ZFP, NTT73, AGPS, TRIM2, HBACH, CIS2, CYP27B1, and STAT5B, wherein said second group comprises SAHH, ADH1A7, RARRES2, and BHMT.

10. (Withdrawn) A method for identifying an agent having the biological effect of estrogen and/or other hormones or combination of hormones on gene expression in kidney, wherein said desired effect represents a first plurality of genes differentially expressed at various levels, which method comprises: exposing, in vivo or in vitro, kidney cells to said agent; measuring expression levels of a multiplicity of genes in said kidney cells exposed to said agent and kidney cells without said exposure, said multiplicity being greater than said first plurality ; determining, using a predetermined statistical significance standard, genes which are differentially expressed in said kidney cells exposed to said agent and said kidney cells without said exposure, said genes constitute a second plurality; and comparing the expression levels of genes in said second plurality with the expression levels of genes in said first plurality, wherein said agent is identified as having said desired effort if said first and second pluralities are the same and said expression levels in said first and second pluralities are substantially the same.

11. (Withdrawn) The method of claim 10, wherein said measuring is performed using nucleotide arrays or nucleotide filters.

12. (Withdrawn) The method of claim 11, wherein said comparing is performed using a suitable statistical technique.

13. (Withdrawn) The method of claim 12, wherein said first plurality is the plurality of any of claims 5-9.

14. (Withdrawn) The method of claim 11, wherein said first plurality is the plurality of

any of claim 5-9.

15. (Withdrawn) An agent identified by the method of claim 13.

16. (Withdrawn) An agent identified by the method of claim 14.

17. (Withdrawn) A pharmaceutical composition comprising the agent of claim 15 and a pharmaceutical acceptable excipient.

18. (Withdrawn) A pharmaceutical composition comprising the agent of claim 16 and a pharmaceutical acceptable excipient.

19. (Withdrawn) A method for identifying an agent capable of maintaining vascular volume in septic shock, which method comprises: exposing, in vivo or in vitro, kidney cells to said agent; measuring expression levels of NTT73 and ABCC3 in said kidney cells exposed to said agent and kidney cells without said exposure; comparing the expression levels of NTT73 and ABCC3 with the expression levels of genes in the plurality of claim 5, wherein said agent is identified as capable of maintaining vascular volume in septic shock if said expression levels of NTT73 and ABCC3 are substantially the same as said expression levels of genes in the plurality of claim 5.

20. (Withdrawn) A method for identifying an agent capable of enhancing calcium uptake in post-menopausal women, which method comprises: exposing, in vivo or in vitro, kidney cells to said agent; measuring expression levels of CYP7B1 in said kidney cells exposed to said agent and kidney cells without said exposure; comparing the expression levels of CYP7B1 with the expression levels of genes in the plurality of claim 6, wherein said agent is identified as capable of enhancing calcium uptake in post-menopausal women if said expression levels of CYP7B1 are substantially the same as said expression levels of genes in the plurality of claim 6.

21. (Withdrawn) A method for identifying an agent for treating cardiovascular disorders,

which method comprises: exposing, in vivo or in vitro, kidney cells to said agent; measuring expression levels of BHMT and SAHH in said kidney cells exposed to said agent and kidney cells without said exposure; comparing the expression levels of BHMT and SAHH with the expression levels of genes in the plurality of claim 7, wherein said agent is identified for treating cardiovascular disorders if said expression levels of BHMT and SAHH are substantially the same as said expression levels of genes in the plurality of claim 7.

22. (Withdrawn) The method of claim 19, 20 or 21, wherein said measuring is performed using nucleotide arrays or nucleotide filters.

23. (Withdrawn) The method of claim 22, wherein said comparing is performed using a suitable statistical technique.

24. (Withdrawn) An agent identified by the method of claim 21.

25. (Withdrawn) An agent identified by the method of claim 22.

26. (Withdrawn) A pharmaceutical composition comprising the agent of claim 24 and a pharmaceutical acceptable excipient.

27. (Withdrawn) A pharmaceutical composition comprising the agent of claim 25 and a pharmaceutical acceptable excipient.

28. (Withdrawn) A plurality of genes, each of whom is differentially expressed in pituitary cells exposed to estrogen and/or a hormone or combination of hormones and pituitary cells without said exposure, which plurality comprises a first group and a second group, wherein each gene in said first group is differentially expressed at a higher level in said pituitary cells exposed to estrogen and/or other hormones or combination of hormones than in said pituitary cells without said exposure, wherein each gene in said second group is differentially expressed at a lower level in said pituitary cells exposed to

estrogen and/or other hormones or combination of hormones than in said pituitary cells without said exposure.

29. (Withdrawn) The plurality of claim 28, wherein said exposure is in vivo or in vitro.

30. (Withdrawn) The plurality of claim 29, wherein said higher level and said lower level are assessed using a predetermined statistical significance standard based on measurements of expression levels.

31. (Withdrawn) The plurality of claim 30, wherein said measurements are obtained using nucleotide arrays or nucleotide filters.

32. (Withdrawn) The plurality of claim 31, wherein said first group comprises STAT5B and GADD45G.

33. (Withdrawn) The plurality of claim 31, wherein said first group comprises STAT5B, GADD45G1, and Kallikreins.

34. (Withdrawn) The plurality of claim 31, 32 or 33, wherein said second group comprises FSHb.

35. (Withdrawn) A method for identifying an agent having a desired effect of estrogen and/or other hormones or combination of hormones on gene expression in pituitary, wherein said desired effect represents a first plurality of genes differentially expressed at various levels, which method comprises: exposing, in vivo or in vitro, pituitary cells to said agent; measuring expression levels of a multiplicity of genes in said pituitary cells exposed to said agent and pituitary cells without said exposure, said multiplicity being greater than said first plurality ; determining, using a predetermined statistical significance standard, genes which are differentially expressed in said pituitary cells exposed to said agent and said pituitary cells without said exposure, said genes constitute a second plurality; and comparing the expression levels of genes in said second plurality

with the expression levels of genes in said first plurality, wherein said agent is identified as having said desired effort if said first and second pluralities are the same and said expression levels in said first and second pluralities are substantially the same.

36. (Withdrawn) The method of claim 35, wherein said measuring is performed using nucleotide arrays or nucleotide filters.

37. (Withdrawn) The method of claim 36, wherein said comparing is performed using a suitable statistical technique.

38. (Withdrawn) An agent identified by the method of claim 35.

39. (Withdrawn) A pharmaceutical composition comprising the agent of claim 38, and a pharmaceutical acceptable excipient.

40. (Withdrawn) A plurality of genes, each of whom is differentially expressed in uterus cells exposed to estrogen and/or a hormone or combination of hormones and uterus cells without said exposure, which plurality comprises a first group and a second group, wherein each gene in said first group is differentially expressed at a higher level in said uterus cells exposed to estrogen and/or other hormones or combination of hormones than in said uterus cells without said exposure, wherein each gene in said second group is differentially expressed at a lower level in said uterus cells exposed to estrogen and/or other hormones or combination of hormones than in said uterus cells without said exposure.

41. (Withdrawn) The plurality of claim 40, wherein said exposure is in vivo or in vitro.

42. (Withdrawn) The plurality of claim 41, wherein said higher level and said lower level are assessed using a predetermined statistical significance standard based on measurements of expression levels.

43. (Withdrawn) The plurality of claim 42, wherein said measurements are obtained using nucleotide arrays or nucleotide filters.

44. (Withdrawn) The plurality of claim 43, wherein said first group comprises SFRP4, Deiodinase, type 11, Procollagen, type 1, alpha 1, vimentin, and IDFBP4.

45. (Withdrawn) The plurality of claim 43, wherein said first group comprises Al121305, ALOX15, BCAT1, SiAMOX, C3, FOS, MAP2k1, CEBPb, and EGR1.

46. (Withdrawn) The plurality of claim 43, wherein said first group comprises SFRP4, Deiodinase (type11), Procollagen (ypel, alpha 1) vimentin, IDFBP4, Al121305, ALOX15, BCAT1, SiAMOX, C3, FOS, MAP2k1, CEBPb, and EGR1.

47. (Withdrawn) The plurality of claim 43, 44, 45 or 46, wherein said second group comprises CYP1A1.

48. (Withdrawn) The plurality of claim 43, 44, 45, or 46, wherein said second group comprises Scavenger receptor.

49. (Withdrawn) The plurality of claim 43, 44, 45, or 46, wherein said second group comprises CYP1A1 and Scavenger receptor.

50. (Withdrawn) A method for identifying an agent having a desired effect of estrogen and/or other hormone or combination of hormones on gene expression in uterus, wherein said desired effect represents a first plurality of genes differentially expressed at various levels, which method comprises: exposing, in vivo or in vitro, uterus cells to said agent; measuring expression levels of a multiplicity of genes in said uterus cells exposed to said agent and uterus cells without said exposure, said multiplicity being greater than said first plurality; determining, using a predetermined statistical significance standard, genes which are differentially expressed in said uterus cells exposed to said agent and said uterus cells without said exposure, said genes constitute a second plurality; and

comparing the expression levels of genes in said second plurality with the expression levels of genes in said first plurality, wherein said agent is identified as having said desired effort if said first and second pluralities are the same and said expression levels in said first and second pluralities are substantially the same.

51. (Withdrawn) The method of claim 50, wherein said measuring is performed using nucleotide arrays or nucleotide filters.

52. (Withdrawn) The method of claim 51, wherein said comparing is performed using a suitable statistical technique.

53. (Withdrawn) An agent identified by the method of claim 50.

54. (Withdrawn) A pharmaceutical composition comprising the agent of claim 53, and a pharmaceutical acceptable excipient.

55. (Withdrawn) A plurality of genes of any one of claims 1, 28 or 40, wherein said expression levels are confirmed by real-time PCR.

56. (Withdrawn) The method of identifying of any of claims 10, 19, 20, 21, 35 or 50 wherein said expression levels are confirmed by real-time PCR.

57. (Withdrawn) A solid substrate comprising the plurality of genes of one of claims 1, 28 or 40.

58. (Withdrawn) The solid substrate of claim 55, which is a gene chip.

59. (Withdrawn) A kit comprising the plurality of genes of one of claims 1, 28 or 40.

REMARKS

I. Claim Status

Claims 1-59 are currently pending in this application. Claims 6, and 8-59 have been withdrawn from consideration. Claim 1 has been amended. Claims 5 and 7 have been cancelled without prejudice or disclaimer. Upon entry of the present amendment, claims 1-4 will be under examination.

II. Formalities

The Examiner has acknowledged and considered the information disclosure statement submitted on June 23, 2006.

The Examiner has also withdrawn the rejection of the claims under 35 U.S.C. §101 in view of the amendments filed in the response of May 24, 2006.

Applicants thank the Examiner for including amended claim 5 for examination in the present case.

II. Amendments to the claims

Amended claim 1 recites a particular plurality set of genes "wherein said first group comprises NTT73, CYP7B1 and ABCC3, and wherein said second group comprises BHMT and SAHH." Support for this amendment may be found at least on page 10, lines 10-11 and page 25, lines 4-7 of the specification, in Example 4 and Table IV, and in original claims 5 and 7.

Thus, it is believed that the present amendments are in compliance with 37 C.F.R. §1.116, since claims 5 and 7 have been cancelled, and amended claim 1 incorporates the subject matter of original claims 5 and 7. The amendments are believed to place the claims in condition for allowance. No new matter is added by way of these amendments.

III. Rejections under 35 U.S.C. §112, first paragraph

Claims 1-5 and 7 have been rejected as allegedly failing to comply with the written description requirement. The Examiner asserts that although the claims are directed to a plurality of any and all genes that are differentially expressed in kidney cells when exposed to estrogen and/or any other hormone, the specification allegedly only has

limited support for a limited range of genes that appear to be differentially expressed and only in response to a limited number of agents. The Examiner cites to Chern *et al.*, Nephron. 85:258-266 (2000) as being supportive of the difficulty in proving a full set of differentially expressed kidney genes. The Examiner also cites to Kuiper for differential expression patterns for various estrogen receptor subtypes.

In order to expedite prosecution and without conceding the validity of the rejection, claim 1 has been amended to recite particular pluralities of genes: the combination of all of ABCC3, NTTT73, and CYP7B1 as the first group and; and BHMT and SAHH, as the second group. Applicants assert that the amended claim finds adequate written description throughout the specification, and in particular on page 25, lines 4-7, in Example 4 and Table IV.

For all the foregoing reasons, Applicants respectfully submit that the rejections under 35 U.S.C. § 112, paragraph 1, have been fully obviated and should be withdrawn.

V. Rejections under 35 U.S.C. §102(b)

Claims 1-5 and 7 have been rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Ecker et al. U.S. Patent No. 5,747,253 ("Ecker"). The Examiner describes Ecker as teaching all possible gene fragments from genes expressed in kidney tissue. The Examiner states that the specification describes a "gene" as including gene fragments that may or may not represent a functional domain. The Examiner concludes that since the claims are not limited to isolated genes, that the 8-mer DNA probes of Ecker anticipate the claimed invention.

Anticipation requires that each and every element of the rejected claim(s) be disclosed in a single prior art reference. See M.P.E.P. §2131 (8th Ed. Rev. 4, 2006). "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). Every element of the claimed invention must literally present, arranged as in the claim. *Perkin Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894, 221 USPQ 669, 673 (Fed. Cir. 1984).

Amended claim 1 recites a particular plurality of genes: the combination of all of ABCC3, NTTT73, and CYP7B1 as the first group and; and BHMT and SAHH, as the second group. The 8-mer DNA probes of Ecker do not teach the ABCC3, NTTT73, CYP7B1, BHMT and SAHH genes.

Since Ecker fails to teach all of the elements of the amended claims, Ecker cannot anticipate the present application. Applicants respectfully request that the rejection under 35 U.S.C. § 102(b) under Ecker be withdrawn.

CONCLUSION

In view of the above amendments and remarks, it is respectfully requested that the application be reconsidered and that all pending claims be allowed and the case passed to issue. Applicants reserve the right to pursue the canceled and/or non-elected subject matter in one or more continuation or divisional applications.

If there are any other issues remaining, which the Examiner believes could be resolved through either a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

Respectfully submitted,

By Amy G. Klann

Dated: January 29, 2007

Amy G. Klann, Ph.D.
Registration No.: 48,155
DARBY & DARBY P.C.

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